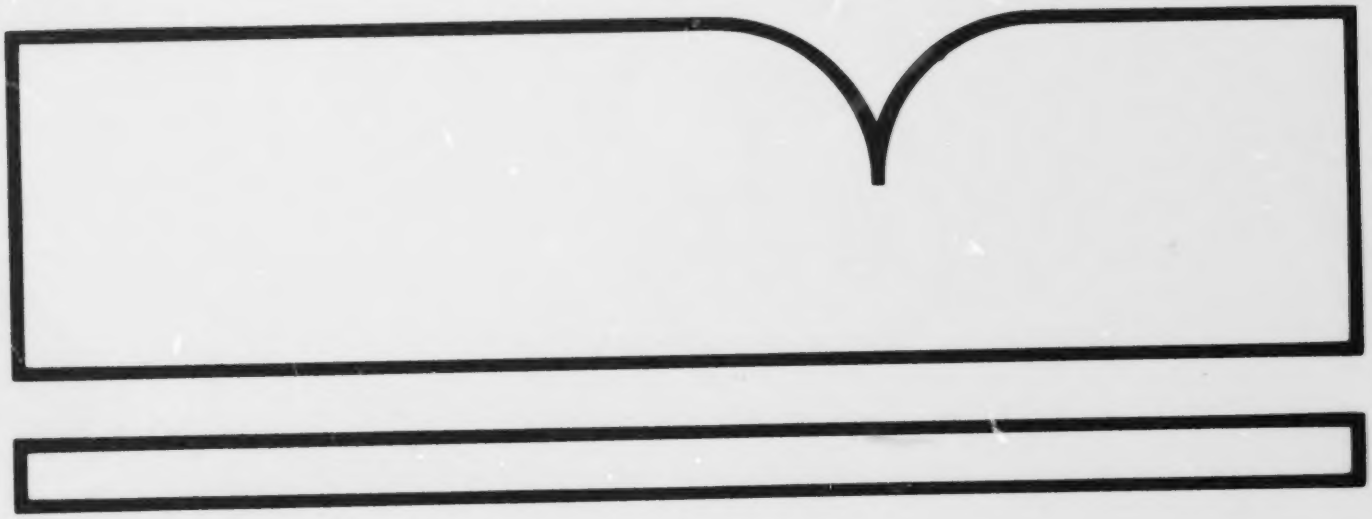
PB90-178195

Superfund Record of Decision (EPA Region 7): Arkansas City Dump Site, Arkansas City, Kansas (Second Remedial Action) September 1989

(U.S.) Environmental Protection Agency, Washington, DC

19 Sep 89



U.S. Department of Commerce
National Technical Information Service
NTIS

United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R07-89/028
September 1989

PB90-178195

EPA

Superfund Record of Decision:

Arkansas City Dump, KS

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The 200-acre Arkansas City Dump site, in Arkansas City, Cowley County, Kansas, abuts a levee to the west and south which separates the site from the Arkansas River. Between 1916 and 1927, an oil refinery was operated onsite processing between 6,000 and 12,000 barrels of oil per day. After an explosion destroyed the refinery in 1927, the site was used as a municipal landfill. The refinery treated petroleum fractions with sulfuric acid to improve color and to remove asphaltenes, parafins, and resinous substances generating acid sludge waste in the process. The sludge waste was disposed of onsite in earthen pits in the north waste area and remediation of this area was addressed in a 1988 Record of Decision (ROD), as operable unit one. The second and final operable unit addresses the remainder of the site, which contains subsurface petroleum contaminants trapped in the soil below the water table as a result of petroleum spills. Results from remedial investigations revealed only low levels of soil and ground water contamination due to onsite disposal of municipal wastes. These contaminants, however, are not being released in significant concentrations and do not pose a significant threat to human health or the environment.

The selected remedial action for this site is no further action. Because EPA lacks jurisdiction or authority under CERCLA/SARA to undertake (Continued on next page)

17. Document Analysis a. Descriptors

Record of Decision - Arkansas City Dump, KS
Second Remedial Action - Final
Contaminated Media: soil, gw
Key Contaminants: petroleum waste

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 24
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(Formerly NTIS-35)
Department of Commerce

16. Abstract (Continued)

remedial action for petroleum-related contaminant releases, no further action will be taken under the Superfund program. There are no costs associated with this no action remedy.

DECLARATION

Under CERCLA, the governmental response authority, release notification requirements and liability are largely tied to a release of a "hazardous substance." Section 104 authorizes the government respond to releases or threatened releases of hazardous substances, contaminants or pollutants.

The term "hazardous substances" is defined under CERCLA Section 101(14) to include approximately 714 toxic substances listed under five environmental statutes, including CERCLA. Both the definition of a hazardous substance and the definition of "pollutant or contaminant" under Section 104(a)(2) exclude "petroleum, including crude oil or any fraction thereof," unless specifically listed under one of the five statutes. Furthermore, as "petroleum" is defined, hazardous substances normally found in refined petroleum fractions are excluded from CERCLA response actions. Hazardous substances found at levels which exceed those normally found in such petroleum fractions, as well as substances not normally found in petroleum products, are not excluded from CERCLA response actions.

This operable unit addresses only petroleum products and fractions thereof. The petroleum exclusion therefore precludes additional response actions on this operable unit from being undertaken under CERCLA authority. Therefore, no further action (beyond the remedial action selected in the first ROD on this site on OU No. 1) is selected as the final remedy on the Arkansas City Dump site.

9-19-89
Date

Morris Kay
Regional Administrator

RECORD OF DECISION

DECLARATION

FINAL REMEDY SELECTION

SITE NAME AND LOCATION

Arkansas City Dump site
Arkansas City, Kansas

STATEMENT OF BASIS AND PURPOSE

This decision document presents the final remedy selected for the Arkansas City Dump site in Arkansas City, Kansas. The U.S. Environmental Protection Agency (EPA) selected the final remedy in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. The U.S. EPA bases this decision upon the documents and information contained in the Administrative Record for this site. Copies of the Administrative Record are available in the Docket Room at EPA's Region VII Office (726 Minnesota Ave.) in Kansas City, Kansas, at the Kansas Department of Health and Environment (Forbes Field, Building 740) in Topeka, Kansas, and at the Public Library (120 East 5th Avenue) in Arkansas City, Kansas.

The State of Kansas (Department of Health and Environment, KDHE) has been the lead agency on this site and concurs with the final remedy selected by EPA.

DESCRIPTION OF THE SELECTED REMEDY

The EPA, in consultation with the State of Kansas, has determined that it lacks jurisdiction or authority to undertake or require additional response or remedial actions under CERCLA/SARA for the petroleum-related contaminant releases outside of the first operable unit at the site. Therefore, the final remedy for the site is "No Further Action."

The EPA and KDHE have already selected remedial actions for the North Waste Area operable unit (OU No. 1) at the site in an earlier Record of Decision signed on September 29, 1988. The wastes and hazardous substances disposed in OU No. 1 are not petroleum-related contaminants and, thus, are not excluded from CERCLA/SARA response actions.

RECORD OF DECISION

Arkansas City Dump Site

Arkansas City, Kansas

Prepared by:

U.S. Environmental Protection Agency (EPA)

Region VII

Kansas City, Kansas

September 1989

RECORD OF DECISION

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DECISION SUMMARY

SECTION 1, INTRODUCTION

1.1 Site Location

The Arkansas City Dump site is located in Arkansas City, Cowley County, Kansas, about 3½ miles north of the Kansas-Oklahoma state line (Figure No. 1). The site is located in the southwest part of Arkansas City, covers about 200 acres, and is bound on the west and south by a levee that follows the Arkansas River. The eastern boundary of the site is 8th Street. The northern boundary of the site is located just south of the railroad bed between the levee on the west and 10th Street on the east (figure 2).

1.2 Site History

An oil refinery was located at the Arkansas City Dump site between 1916 and 1927. The refinery processed between 6,000 and 12,000 barrels of oil per day until it was destroyed by an explosion and fire in 1927. The refinery was initially called the Milliken Oil Refinery but was later referred to as the Arkansas City Oil Refinery. The site was used as a municipal landfill after the refinery was closed.

The refinery treated each petroleum fraction with sulfuric acid to improve product color and remove asphaltenes, paraffins, and resinous substances. An acid sludge was generated as a waste in the operation of the refinery. This waste was unmarketable and was disposed on the ground or placed into earthen pits on the site in the North Waste Area. This waste disposal was addressed in a previous Record of Decision as Operable Unit No. 1.

This Record of Decision for Operable Unit No. 2, addresses the remainder of the site, which contains subsurface petroleum contamination, which resulted from the spillage and handling of petroleum products. Figure No. 2 details the location of the subsurface oil contamination and the acid sludge.

After the refinery was closed, the 160 acres of the site south of Madison Street were used for the disposal of municipal wastes. Based upon ground-penetrating radar data, the majority of the municipal waste is located adjacent to the access road along the levee on the western part of the site (Figure No. 3).

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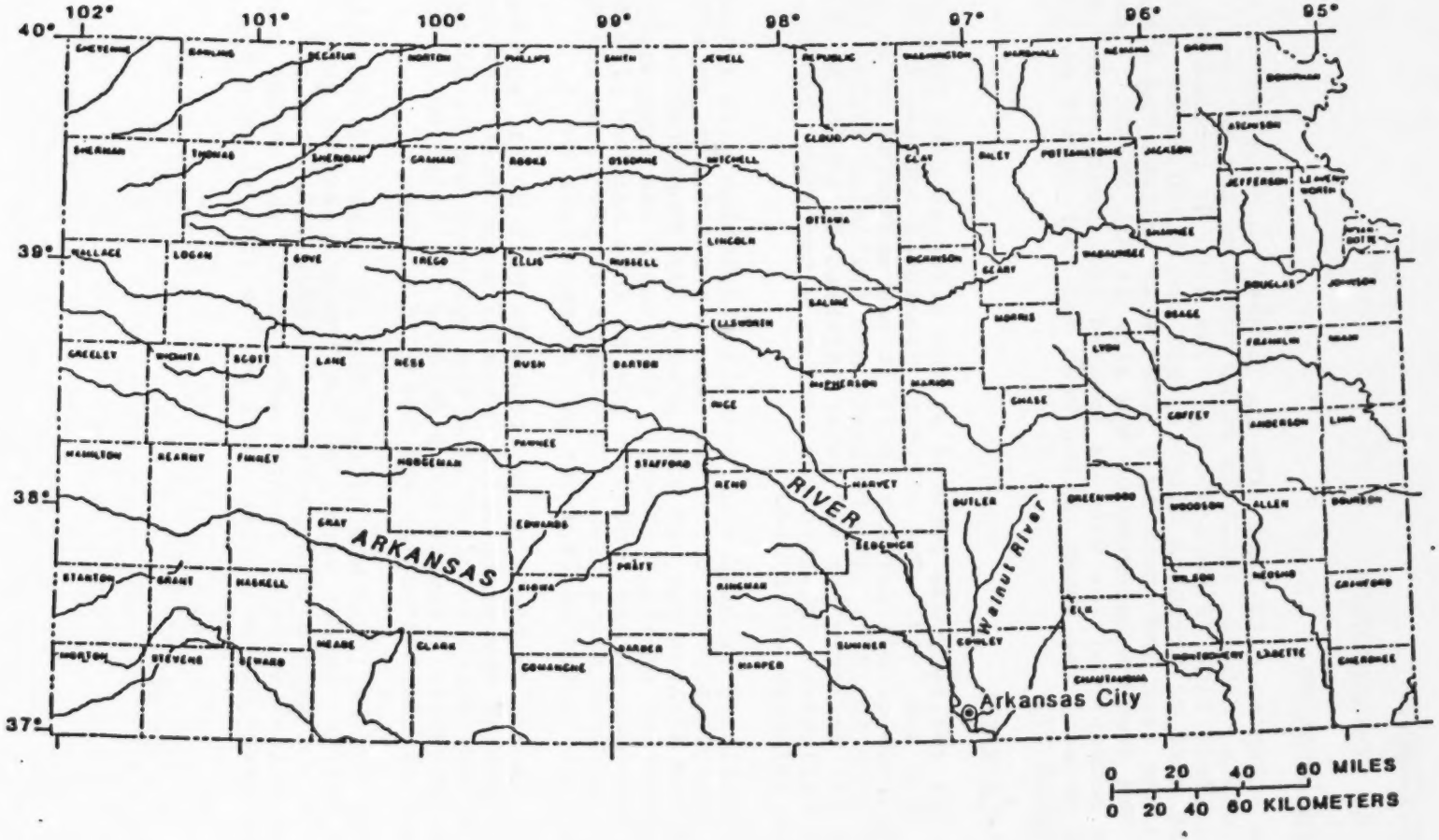

Figure 1.--Location of Arkansas City, Kansas.

Figure 2--Location of Refinery Wastes, Arkansas City Dump Site

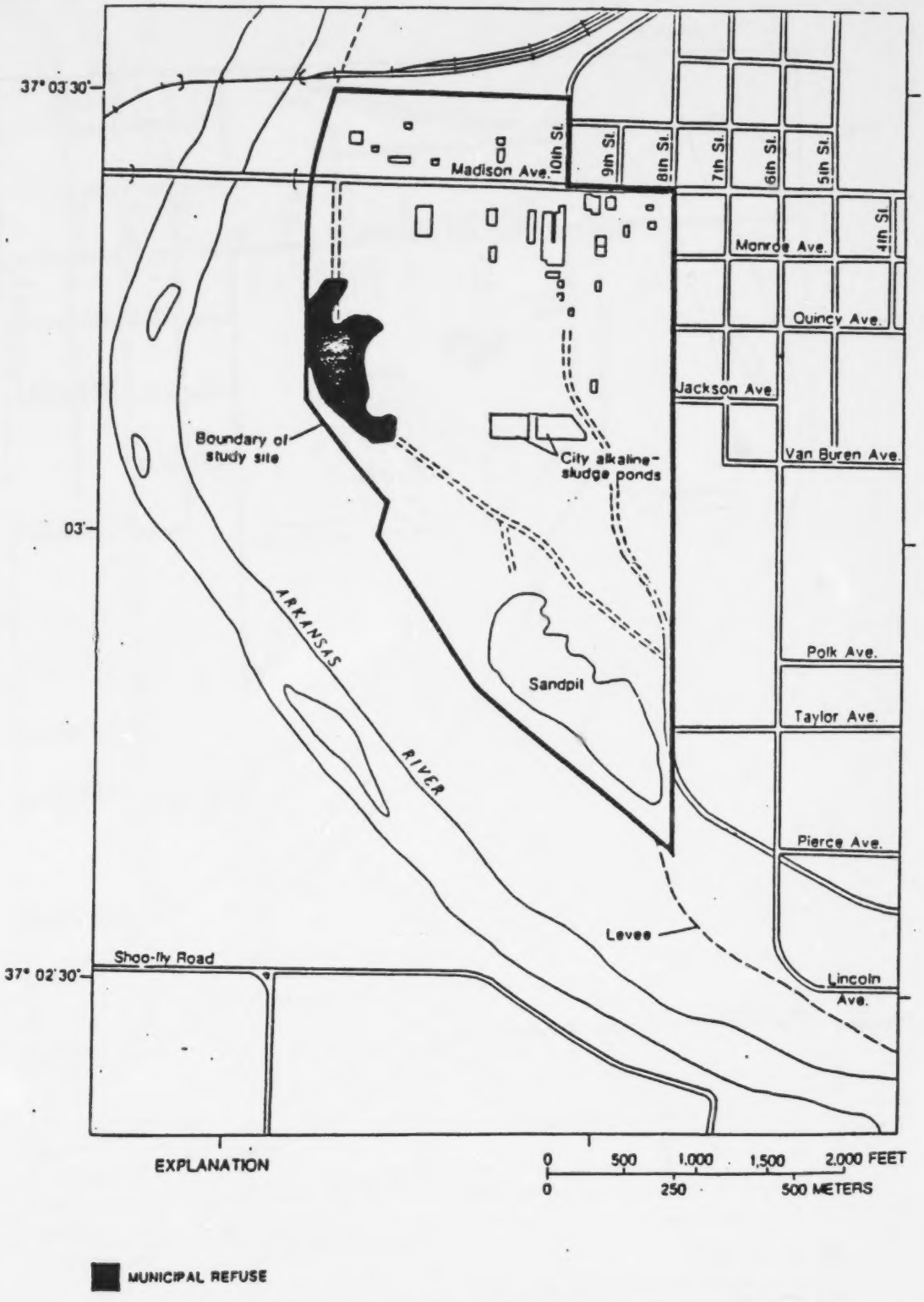

Figure 3--Location of Municipal Refuse, Arkansas City Dump Site

SECTION 2, COMMUNITY PARTICIPATION

The EPA and the State conduct community relations to ensure that the local public has input into decisions about Superfund actions and is kept informed about the progress of those actions.

As lead agency, KDHE has been responsible for community relations for OU No. 1. The ROD issued September 24, 1985, relating to OU No. 1, contained a description of historical community relations on this site, and a Responsiveness Summary addressing all the public's comments or concerns. A public meeting was held on the OU No. 1 Proposed Plan. A copy of the ROD on OU No. 1 can be found in the Administrative Record.

Section 117 of CERCLA provides that a notice and brief analysis of the Proposed Plan be published, and that the Proposed Plan be made available to the public. For this operable unit (No. 2), a notice and brief analysis of the Proposed Plan were published on August 4 and 7, 1989 in the Arkansas City Daily Traveler newspaper. The notice informed the public of its role in the decision making process and provided information on the public comment period, the location of the Administrative Record, and methods by which the public could submit oral or written comments. The notice also presented the preferred alternative and requested public comments on this alternative.

To provide the community with adequate opportunity to submit written and oral comments on the Proposed Plan and related documents in the Administrative Record, the KDHE and EPA established a public comment period from August 7 through 28, 1989. The KDHE and EPA also held a public meeting in Arkansas City on April 21, 1989 to present the Proposed Plan, answer questions and receive comments.

The Proposed Plan and the rest of the Administrative Record (covering both operable units) were made available for public review at the Arkansas City Public Library (120 East 5th Avenue, Arkansas City, Kansas), at KDHE (Forbes Field, Building 740, Topeka, Kansas), and at the EPA's Region VII Docket Room (726 Minnesota Avenue, Kansas City, Kansas).

No significant comments were received from the public by KDHE or EPA on the Proposed Plan or the preferred alternative. A few people asked questions in the public meeting held. These questions were answered during the meeting by KDHE and EPA.

SECTION 3, SCOPE OF RESPONSE ACTIONS

As stated above, contamination in OU No. 2 is related primarily to the spillage and handling of petroleum products from the abandoned refinery. Petroleum-based materials and contaminants in OU No. 2 are generally found trapped in soils below the water table and do not appear to be migrating offsite.

Very low concentrations of a few organic and inorganic contaminants were found in soils and ground water in OU No. 2, which do not appear petroleum-related. However, such contaminants do not appear to be migrating offsite and do not pose a significant threat to human health or the environment. The nonpetroleum contaminants appear to have resulted from the disposal of municipal wastes at the site after the refinery closed.

SECTION 4, SITE CHARACTERISTICS

4.1 Types and Characteristics of Wastes and Contaminants

The remedial investigations at the site identified three main types of wastes or contaminants:

- Acid sludge resulting from refinery operations was disposed in the North Waste Area. These wastes were addressed in OU No. 1 and are more completely described in the ROD on OU No. 1. Remedial actions by KDHE and EPA are underway.

- The disposal of municipal wastes after the refinery was abandoned has resulted in low levels of soil and ground water contamination. However, these contaminants are not being released from the site in significant concentrations and do not pose a significant threat to human health or the environment.

- Spillage and the handling of petroleum products during refinery operations resulted in oil-contaminated soil and ground water. Oil-contaminated sediments were found during the drilling of many of the boreholes and monitoring wells on the site. Most of the boreholes near the former refinery revealed oil-contaminated aquifer sediments near or below the water table.

A few onsite monitoring wells had free-floating hydrocarbons at the water table. Remedial investigation (RI) data suggest that oil is trapped below the water table in areas where the water table had fluctuated over the years. When the water table recovered (raised to its previous elevation), oil remained trapped in the pore spaces of the soil. The oil appears to be

immobile and is not migrating offsite. Oil from boreholes had a diesel fuel smell and, it is believed to have from 11 to 19 carbon atoms. Analytical data from the RI confirmed the product was petroleum-based.

Most of the lighter hydrocarbons, such as benzene, xylene and toluene, have apparently volatilized or have been flushed from the site by the normal flow of ground water. Somewhat greater concentrations of these compounds were found in oily sediments. The oily materials appear to be weathering to a jelly-like consistency and are not migrating offsite.

4.2 Quantities of Contaminants

The bulk of the oil-contaminated sediments are found 10 to 20 feet below the water table or 30 to 45 feet below ground surface. The average thickness of the oil-contaminated sediments is 10 to 20 feet. Data from the RI indicate that approximately nine acres of the site contain oil-contaminated sediments.

No estimate has been made on the quantity of municipal wastes disposed at the site, because these municipal wastes do not appear to release significant concentrations of contaminants into the environment.

4.3 Summary of Site Risks

A baseline public health evaluation was conducted on the potential hazards associated with possible exposure to contaminants found at the site, to provide an analysis of site conditions in the absence of remedial actions. It provides an understanding of the releases of hazardous substances, pollutants or contaminants from the site, the pathways of potential human exposure, and the degree to which such releases violate applicable or relevant and appropriate environmental public health requirements.

Contamination at the Arkansas City Dump site is primarily related to the disposal of acid sludge in OU No. 1. Significant levels of contaminants in OU No. 2 are related to the spillage or loss of petroleum products. Soils in OU No. 2 contain polynuclear aromatic hydrocarbon (PAH or PNA) contamination and other contaminants which are constituents of petroleum products. Onsite ground water in OU No. 2 also contains PAHs and other oil-related compounds. Onsite soil contaminant levels pose a remote threat of direct contact exposures. However, since land uses are limited, the potential for direct contact exposures to onsite soil contamination is minimal.

Similarly, there is no onsite use of ground water for drinking. Significant concentrations of organic, or inorganic, contaminants have not been found moving offsite in ground water. There are some nearby drinking water wells. However, these water

supplies do not appear at risk of contamination because of the very low levels of contaminants found in ground water onsite, and because the direction of ground water flow is away from these wells.

In the area of municipal waste disposal, only very low levels of contaminants were found in the soil or ground water. Soil contamination posed no significant threat of direct contact exposures. Nor did the ground water contaminant levels threaten any of the nearby drinking water wells.

Environmental risks at the site are considered to be low. The low solubilities (in water), sorption characteristics, and biodegradability of the waste contaminants all tend to minimize environmental risks. Accumulation in plant material of the contaminants present is not expected to be significant, nor is its entry into the food chain. Surface water contamination is not considered to pose a significant risk, nor is it a source for entry of contaminants into the food chain. Movement from the currently contaminated soil, acid sludge, and ground water is unlikely, as are adverse environmental effects, from these sources.

In summary, the principal hazards posed by the Arkansas City Dump site are thought to be direct contact with the sulfuric acid and the organic compounds in the acid sludge waste which are being addressed in OU No. 1, and the potential consumption of onsite contaminated ground water. Presently, there is no consumption of onsite ground water and the potential for contamination of offsite ground water used for drinking is remote because of the direction of ground water flow.

SECTION 5, STATUTORY AUTHORITY FINDING

Under CERCLA, governmental response authority, notification requirements and liability are dependent upon a release, or a potential release, of a "hazardous substance." Section 104 authorizes governmental responses to releases or threatened releases of hazardous substances, contaminants or pollutants.

The term "hazardous substance" is defined under CERCLA Section 104 (14) to include approximately 714 toxic substances listed under five environmental statutes, including CERCLA. Both the definition of a hazardous substance and the definition of a "pollutant or contaminant" under Section 104(a)(2) exclude "petroleum, including crude oil or any fraction thereof," unless specifically listed under one of the five statutes. Accordingly, no petroleum substance can be a "hazardous substance" except to the extent that it is listed under one of these statutes. Furthermore, as petroleum is defined, hazardous substances normally found in refined petroleum products are excluded from CERCLA response actions. Hazardous substances found at levels which exceed those normally found in such petroleum products, or

Record of Decision (ROD) for
Arkansas City Dump site
Arkansas City, Kansas

This Responsiveness Summary presents the responses of the Kansas Department of Health and Environment (KDHE), the lead agency on the site, and the U.S. Environmental Protection Agency (EPA) to comments received regarding the final remedy proposed for the site.

The KDHE released a Proposed Plan and related supporting documents for 21 days of public review and comment on August 7, 1989. The KDHE held a public meeting on the remedy proposed on August 21, 1989 in the City Council Chambers of Arkansas City, Kansas. The City Manager for Arkansas City, several representatives of the U.S. Army Corps of Engineers (COE), and at least one member of the community attended the meeting. Region VII of the EPA attended the meeting in support of KDHE, the lead agency.

No negative or adverse comments on the proposed remedy were received during the public meeting. Several questions or requests for clarification were received during the meeting. However, the responses of KDHE and EPA during the meeting satisfied the people who asked the questions. The public meeting has been transcribed by EPA. A copy of the transcript is included in the Administrative Record for OU No. 2.

The public comment period on the proposed final site remedy closed on August 28, 1989. No written comments were received by either KDHE or EPA. Therefore, the verbal responses by KDHE and EPA to the questions received during the public meeting, as reflected in the transcript, constitute the responses of KDHE and EPA to the public's concerns about the final remedy proposed for this site.

which exceed those normally found in such petroleum products, or substances not normally found in petroleum products, are not excluded from CERCLA response actions.

Therefore, as the result of the lack of jurisdiction to address the petroleum-related contaminants in OU No. 2 under CERCLA, no further action will be taken under the Superfund Program as to those contaminants at the Arkansas City Dump site.

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Stanley C. Grant, Ph.D., Secretary

(913) 296-1535
FAX (913) 296-6247

September 18, 1989

Dave Crawford
U.S. EPA Region VII
726 Minnesota Ave
Kansas City, KS 66101

Dear Mr. Crawford:

I have reviewed the draft of the Record of Decision for the Ark City Dump Operable Unit #2. I have found the document to be complete and acceptable to the department. The comments which were made to you during our September 18, 1989 telephone conversation were all very minor.

If you should have changes or additions to this document please inform me of these changes and provide me with an accurate final copy.

Thank you for your assistance in working toward a resolution of this site.

Sincerely,

Gary Blackburn
Environmental Geologist
Bureau of Environmental Remediation

C Ron Hammerschmidt

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
James Power, P.E., Director of Environment (913) 296-1535
Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1619

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ARKANSAS CITY SUPERFUND SITE

ARKANSAS CITY, KANSAS

SEP 15 1989

Public Meeting on Final Remedy Selection Operable Unit No. 2

Held in Arkansas City, Kansas
City Hall, The City Commission Room
7:00 p.m., August 21, 1989
Gary Blackburn, RPM, KDHE

Introduction

A public meeting was held by the Kansas Department of Health and Environment (KDHE), the lead agency on the Arkansas City Dump site. Region VII of the Environmental Protection Agency (EPA) also attended and participated in the public meeting.

The public meeting was held to offer the community the oppportunity to comment on the remedy proposed by KDHE and EPA for the second and final operable unit at the site. The meeting was recorded. The transcript of the tape is as follows. In transcribing the tape, certain portions of the tape were not clear. Additions made by EPA in typing the transcript are shown in parentheses.

Transcript

Gary Blackburn, Remedial Project Manager, KDHE: This meeting is being conducted to consider the second operable unit of the Arkansas City Superfund Site. The Kansas Department of Health and Environment (KDHE) and the U. S. Environmental Protection Agency (EPA) are holding this public meeting to inform the public of the actions being taken at the site and to give the public a chance to comment on any issues they would like to bring up regarding the site before we make the final decision, which will be placed into the Record of Decision (ROD).

The Regional Administrator for Region VII, EPA, signed a ROD September 29, 1988 regarding the first operable unit for the Arkansas City Superfund Site. That operable unit dealt with the acid sludge at the north waste area. The final cleanup for that will involve neutralization of the acid sludge, followed by a soil cover along with some deed restrictions to prevent the public from being exposed to it at any time in the future.

The second operable unit, I believe all of you have a copy of the Proposed Plan for Operable Unit No. 2, deals with the remaining contaminants at the site, predominantly with the oil contaminated sediments within the subsurface. The oil contaminated sediments have been viewed by EPA to be excluded (as reliable for response actions) under CERCLA. The EPA is statutorily prevented from doing a cleanup of the (portion of the) site that is related to oil spillage of petroleum products, including crude oil or any fraction thereof. For that reason, the petroleum exclusion prohibits EPA from taking any form of action in cleaning up the oil contaminated sediments in the subsurface.

Looking at your proposed plan at Figure No. 2, you can see where the oil contaminated sediments lie on the site. There has been estimated to be between 500,000 and 1 million gallons of oil within the subsurface. That sounds like an extraordinary amount of oil to leave behind and not perform a cleanup. However, with the nature and the spread of the oil, it is not possible to do any form of effective cleanup at the site. The oil has been in the subsurface for probably 50 to 60 years since the oil refinery was burned down. The oil contamination within the subsurface appears to be basically in a state of equilibrium, in that contaminants that are leaching from the oil are limited since the contamination has been there such a long period of time, and it seems that the biodegradation taking place naturally at the site is consuming the contaminants before the oil contaminated sediments allow movement offsite. For that reason, the monitoring option for the site is probably the best option at this time.

The Kansas Department of Health and Environment will continue to monitor the site. Monitoring wells are already onsite now and more will be installed at the time the neutralization of the sludge takes place. Long-term monitoring will continue through the future to determine if contamination is migrating from the site, and if so, the Department will consider taking action under other authorities. I guess, at this time, we will open it up for any questions or comments the public would like to make.

David Combs Corps of Engineers, Tulsa District (COE): I just had a real quick question, David Combs, COE. In Operable Unit 2, You talk about not doing anything about cleaning up the petroleum contaminants underneath. What about the acid sludges that are on the surface? Are you all going to propose any (restrictions) there?

Blackburn: You mean with the South waste area?

Combs: Correct.

Blackburn: From my understanding the south waste area, the contractor for the Department indicated that most of those sediments or most of those contaminants are basically neutral at this time. I understand that recent inspections of the site have found that the material is still very liquid and mobile. I believe that is something that we may ask the contractor under the operable unit to look at regarding whether neutralization is necessary or a soil cover there might be necessary.

Blackburn: Other questions?

Combs: Only one other question, David Combs. Out of curiosity, the risk assessment that was done for Operable Unit 2, what did it show?

Blackburn: The risk assessment was basically the same for Operable Units Nos. 1 and 2. It showed that if you consume ground water from the site itself, that there would be a threat of cancer. At this present time, nobody is consuming ground water immediately below the site and all downgradient water users appear to be well within a safe margin (distance from the site). The Department is, again, working with the City to impose deed restrictions for the site to prevent anybody from installing water wells on the site, which might produce water for consumption purposes. So we have considered and are intending to prevent that from being a risk to the public.

David Crawford, EPA: Dave, I guess that I would add that when we are doing the remedial design in the first Operable Unit, we want to make sure that we don't change the ground water flow patterns and cause contaminant releases that are not now occurring. So that is one of the things we intend to keep a handle on during the remedial design.

Combs, COE: What is the status of the remedial design on Operable Unit 1 now?

Crawford: I expect I will probably approve the work plan in a week or two. They will probably need an additional week or two after that to mobilize.

Blackburn: Other questions?.....Yes, Mr. Freeland.

Curtis Freeland, City Manager, Arkansas City, Kansas: I thought it might be good for the State to kind of go over what the anticipated plan is now that funding has been provided for this clean-up for Operable Unit No. 1. What kind of timeframe from now until that work might take place and be completed.

Crawford: Okay. We are using a contractor called Flour Daniel out of Dallas to do the remedial design for us. The Remedial Design, just briefly, will involve neutralization of that semi-liquid sludge and then a soil cover on top of that. In order to

do that we are going to need to drill several borings to determine exactly how large that north waste area is. At that time, I think we will also take a look at the south waste area to see if there is anything over there that needs neutralization. In addition to doing that, though, I also want to determine how they are going to do the injection of the neutralizing material. How far apart those holes will have to be and how much material will have to be injected and exactly what the material will be. Like I said, I expect to approve that work plan within a week or two, and they will probably need a week or two after that to begin the field work. We hope that by the end of October, I believe, we hope to be basically done with the remedial design, at least to the extent that we can give the State of Kansas a fairly good estimate on how much money would be required for the remedial action. At this point, I think the overall plan is still for the State of Kansas to be the lead agency on the actual remedial action, but that would not be able to start, because of winter weather, before spring at the earliest.

Freeland: So the State of Kansas would like a contract sometime in the spring if everything went well or as it is planned now.

(KDHE and EPA nod to indicate affirmative.)

Blackburn: Other comments or questions?

Freeland: I think another question is to discuss during which nature of the deed restrictions are being proposed and the potential uses that might be allowed within the deed restrictions.

Blackburn: This afternoon, Mr. Freeland and I discussed the potential deed restrictions for the site. As we discussed deed restrictions we are looking at, we are going to try to keep to a minimum, such that the site can be used for some sort of industrial use that won't infringe on the contamination that will be left onsite in a capsulated form. The one deed restriction that probably will cover the entire site would be a deed restriction regarding water use. Because, at this present time, we believe that the water under the site is contaminated to such a extent that we prefer not having any use of that site for any use. The actual deed restrictions will be worked out with the City and with existing land owners and, like I say, I don't foresee it being a real restrictive deed restriction once the acid sludge is covered. As the risk assessment indicated at the present time, it appeared the only real risk is the human contact with the acid sludge causing a burn, an acid burn to someone who might contact the sludge. The other assessment of the site was that basically, the only other threat existing would be the consumption of ground water.

Blackburn: Other Questions?

Warren Mason, COE: In your deed restrictions, have you contemplated the idea of restricting further disposal on the area at significant depths which might compact the soils in the area, thereby pushing out materials already disposed to the surface?

Blackburn: That is something that we will be considering as well, especially over the acid sludge or any king of buried oils onsite. The subsurface oil contamination does not appear to be a threat of that kind as there is not really a pool or mass that could be forced out. But, yes, that is something we discussed and probably, over the acid sludge itself, any kind of construction would be very, very limited. As far as a basic parking lot or something of that sort that would be acceptable, but no extensive loading could be allowed over the acid sludge.

Question: Is there any formal plan for location for the additional monitoring wells to be placed?

Blackburn: That should be done by the actual contractor on the remedial design portion. And again, as Dave had indicated, that is one thing that we do want to make very certain that we don't influence the ground water flow direction and the current ground water status by that neutralization process. So the monitoring network will be fairly intensive around the acid sludge to determine whether we created a ground water mound and also downgradient to ensure that we don't disrupt the actual biodegradation that is currently taking place within the subsurface.

Combs: I would like to talk a little bit about that old landfill site. We have the map here that is included in the plan.....(not intelligible on tape).

Blackburn: Right, Figure No. 3 shows the area where there is solid waste located, and within Figure No. 3. The Department will be doing some monitoring of that side also in conjunction with the ongoing monitoring of the site. The actual landfill area will probably be another area where we will suggest that structures not be constructed due to possible decomposition of subsurface materials and future collapse. ..... other questions regarding the site?

Blackburn: The public comment period will remain open until, I believe, August 28 for public comments that anyone would want to submit. The back page of the Proposed Plan contains phone numbers and addresses for anyone who would want to submit written public comments, and those public comments can be sent to either Rowena Michaels or me. Like I say, the public comment period will remain open for probably an additional week anyway before it will close, and anybody who would have significant public comments they would like to make, or if anybody has comments now

they would like to have us address in the Record of Decision, I will open it up again for those comments. I will be around for awhile, yet, afterwards if anybody has any other questions they would like to raise.

I believe this concludes the Arkansas City Public Meeting. I thank everyone for attending and, like I say, I will stick around for any other questions that you might have.